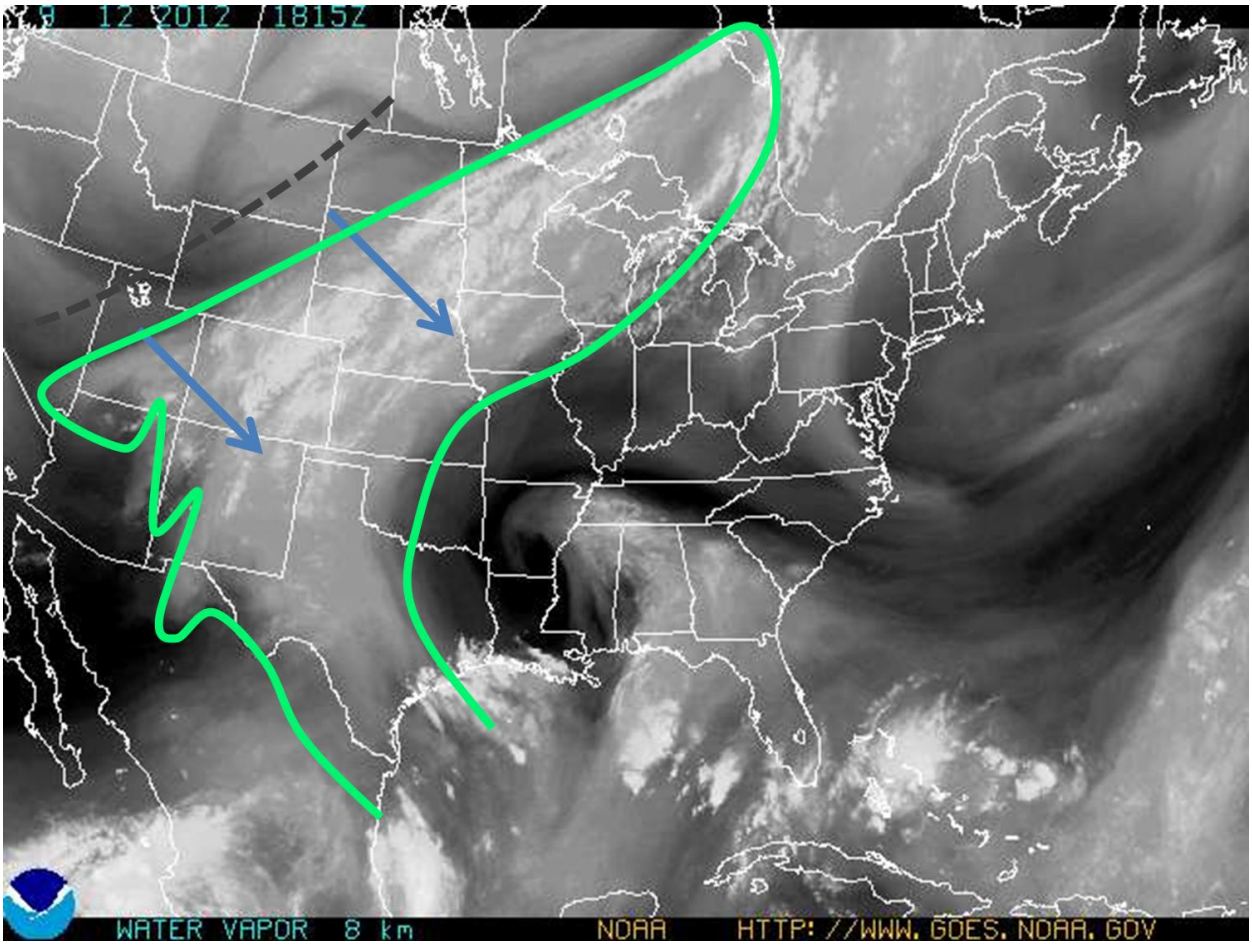
A Little Rain Must Fall?

Mid September Weekend May be Wetter, Cloudier, and a Bit Cooler Across the RGV

After a prolonged period of searing heat and largely rain-free weather, particularly for the most populous portion of our region (Mid Valley), confidence has increased enough on at least a temporary "break" in the pattern to forecast not only better chances for rain, but widespread accumulations along with enough cloud cover to keep temperatures down...in fact, ***below*** seasonal averages (which range from around 90 near the coast to the middle 90s elsewhere for September 14-16). All-day showers and storms would keep temperatures in the lower 80s, particularly Saturday and Sunday - but we're not forecasting those values just yet.

General Trends

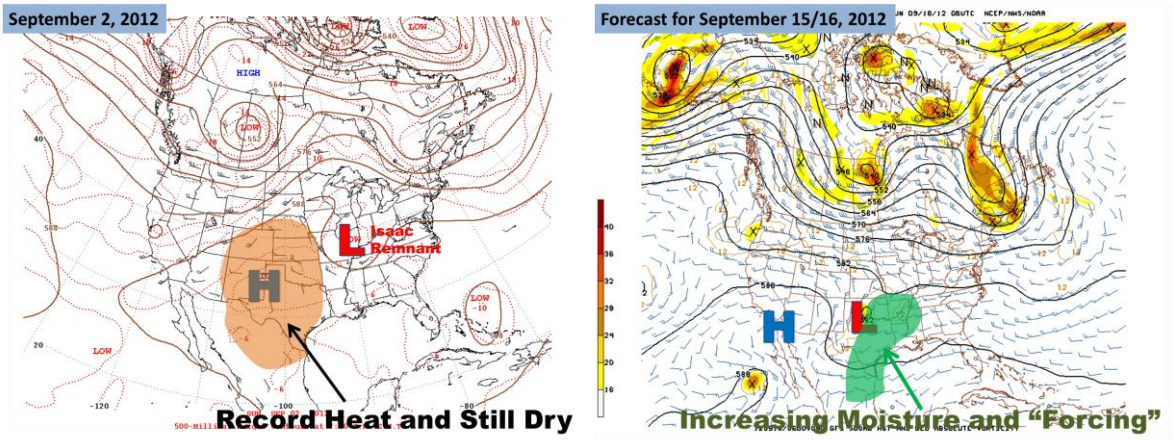
After a summer dominated by the "La Canícula" high pressure ridge, a break in the pattern is underway.



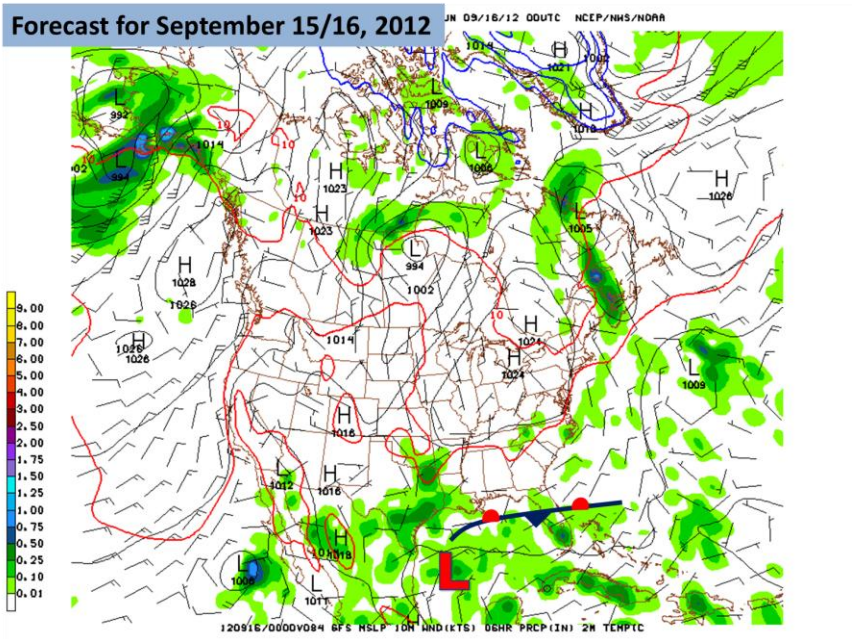
The satellite water vapor image (above) tells the tale. Gray areas indicate increasing mid-level moisture; the white areas across the Rockies and northern Plains show upper level moisture (all outlined in green) and indicate a fairly robust upper level jet pattern, which is diving southeast toward Texas. The upper jet is expected to contribute to lifting of warm, humid low and mid-

level air - which will ultimately lead to an increasing rain shield across Texas, including the RGV.

The charts below indicate the upper level pattern at around 18,000 feet. At left, the persistent "La Canícula" ridge on September 2nd, in the general area it has "lived" for much of the past three months. At right, the forecast pattern for this weekend, showing a piece of the diving trough shown on satellite above moving across Texas, with the ridge - *finally* - displaced to Baja California and the far eastern subtropical Pacific.



At the surface, the energy associated with the upper low will help form an area of surface low pressure (below) in the western Gulf, often called a "Texas Gulf Low" - though nowhere near as strong as one during the winter. Such a low *<u>is not tropical</u>*. But these systems can help focus and circulate moisture back into Texas, and we expect this weekend's system (below) to do the same.

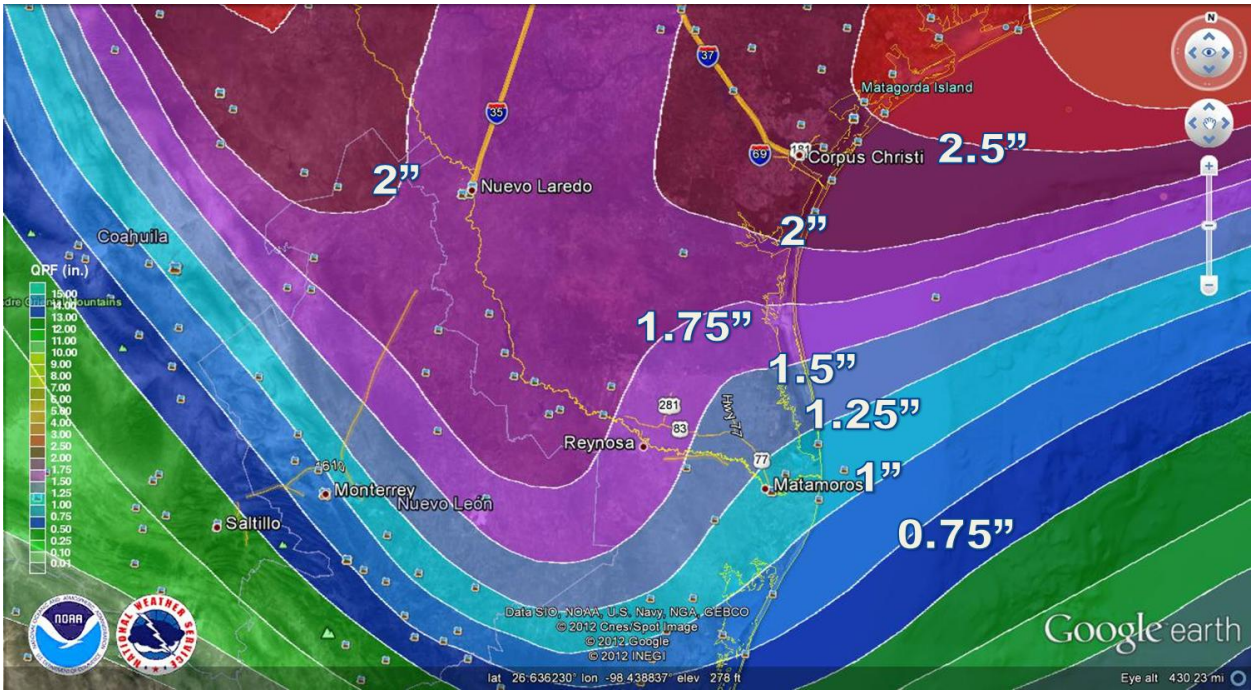


The Forecast

For each day through the rest of the week, rain and coverage will gradually increase. Thursday will see an increase of mainly sea-breeze showers and storms, setting off boundaries from the coast inland and helping other cells develop. Still, more "miss" than "hit", particularly across the parched mid-Valley. By Friday, the arrival of the decaying front along with thickening moisture between the departing upper-level ridge and approaching trough will increase rain chances and coverage, as the moisture is lifted by the boundary and just enough daytime heating. The rain will be a mix of showers and lightning storms - and the adverse conditions may affect a number of Friday evening football games across the Valley - so be alert for potential weather delays at some venues. Any heavy rainfall Thursday and Friday should be highly localized.

The forecast is more muddled for Saturday and Sunday. Model consensus with the peak of the energy wave approaching Saturday night into Sunday suggest the best chances for more widespread and locally heavy rainfall to occur then. That said, subtle changes between now and then could shift timing forward (into Saturday) or backward (into early Monday). The other key issue is where in Texas will the best "forcing" be for the most beneficial rains. Trends suggest the Coastal Bend through Houston, west into the Hill Country and Big Bend region, and points north including the DFW metroplex. However, at least one model suggests a more southward movement of the trough, which would increase rainfall across the RGV and put a better dent into the severe to extreme drought.

The rainfall forecast through early Monday, as of Wednesday noon, is shown below.



Impacts and Outcomes

For many, a three day period of on-and-off rains is good news, plain and simple. How much good news will depend on how much rain - locally and especially area-wide. The current

forecast suggests at a minimum, Thursday would be a great day to check/clear drainage ditches and canals for debris which may have built up over the past month or two - especially since we have not had a tropical cyclone threaten this year. As with any widespread Valley rain event, the potential for at least one storm or series of storms to produce torrential rains and local flash flooding exists.

Drought Evolution: Widespread rainfall of 3 to 5 inches - a low confidence but possible outcome - would likely take our drought conditions down one category by next week - from Extreme down to Severe for most of the RGV if it happens. Widespread rainfall of 2 inches or less may be kept as Extreme Drought, as this particular time of year is the peak of our "daily" rainfall averages and 2 inches Valley-wide over the course of a 5 day period in mid-September is not too far above where we should be. And, after this rain episode passes, another period of warm, dry weather is expected for a good part of next week.

Whither the Valley's Hurricane Season?

The nails are quickly shutting the coffin, a variation of the saying goes. Stronger cold fronts are forecast to plunge into the eastern half of the U.S. over the next ten days, and a buffer of increasing westerly flow and associated wind shear at mid/high levels of the atmosphere will descend south of 30N latitude, further pinching subtropical high pressure ridges along or south of the border. We're not quite done, but it's getting close. The 45th anniversary of Hurricane Beulah (September 20th) is looking like a day for *remembering* it - not a day for *re-living* it ☺